SURGERY

UNDER THE CHARGE OF

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Anesthesia of the Sciatic Nerve.—BABITZKI (*Zentralbl. f. Chir.*, 1913, xl, 227) says that for successful anesthetization the injection must be intraneural. Paraneural injections are extremely unreliable. In the best cases the anesthesia may be insufficient and in the worst we risk the development of general toxic symptoms before the occurrence of the anesthesia. Paraneural injections of salt solutions in large quantities, give good results in sciatica. Although much of the fluid is absorbed there still remains a considerable quantity in a compact layer pressing on the nerve. It is otherwise with a toxic anesthetizing fluid. Novocain solution (2 to 3 or even 4 per cent.) must be economically employed. Babitzki uses the following method: The finger in the rectum reaches to the point where the nerve bends over the edge of the great sciatic foramen to pass downward in the groove between the tuberosity of the ischium and great trochanter. The great sciatic foramen is formed from the great sciatic notch by the great sciatic ligament passing from the sacrum to the spine of the ischium. The spine of the ischium is easily found by the finger which is then made to press upon the bone and ligament in the whole circumference of the foramen carrying the contents of the foramen before it. The nerve is almost entirely covered by the pyriformis muscle and only a small portion of it lies below the margin of this muscle between it and the bony edge of the foramen. The injection needle is introduced, under the control of the finger in the rectum, through the gluteal muscles down to the foramen, and the needle point can be made to find any desired portion of the thick nerve trunk. It is of the greatest importance that the nerve itself can always be found. When the nerve is injected the result develops rapidly within a few minutes—not in the course of an hour or half an hour (Jassentzki and Wojno). The method has been employed in 15 cases, in which the results were completely satisfactory. It was used for amputation of the femur, Madelung's venesection, inflammatory process of the foot bones, fractures of the femur and bones of the leg, as well as for sciatica. About 5 c.c. of a 3 per cent. solution of novocain is first injected into the anterior crural nerve, by Lawen's method, when the patient is turned face downward. The fractures gave most difficulty, for which the necessary precautions must be taken. The patient usually will have had applied first aid to the injured dressing, which should not be removed until after the injection is made. The technique and the rules of asepsis for the manipulations in the rectum are generally known.

Subcutaneous Rupture of the Diaphragm and Positive Pressure (Meltzer).—RIEBEL (*Surg. Gynec. and Obst.*, 1913, xvi, 133) made a study of the literature after an experience with a case of rupture of the diaphragm in a boy, aged ten years, who had a wagon loaded with gasoline cans pass over his left leg and side of chest, the boy lying prone on the ground. Operation showed the entire stomach in the pleural cavity and the entire left half of the diaphragm, as far back as the costal angle, detached from the ribs at right angles to its fibers. Inspection revealed the stomach and intestines as well as parenchymatous organs uninjured. A postmortem was not held. From his study Riebel concludes that the diaphragm has an important influence upon the heart's action, by its anatomical relation to the heart and pericardium. It is an important factor in the circulation by aiding the venous return, especially from the abdominal cavity. It plays an important part in maintaining equilibrium in the thoracic cavity. Rupture of the diaphragm must needs be followed by serious disturbances in respiration and in the equilibrium within the thoracic cavity. The inevitable prolapse of abdominal organs following subcutaneous rupture still increases this condition, frequently producing a state of positive pressure in the thoracic cavity. The use of differential pressure is absolutely necessary to overcome these factors. It will insure better results, in these cases, permitting, furthermore, the choice of abdominal or pleural route or both as the occasion requires. The character of pressure, whether positive or negative, is of little consequence, but the method of Meltzer is simple and can be used anywhere. In cases of suspected subcutaneous rupture of the diaphragm, insufflation should be employed with low pressure (10 to 15 mm.) before operation, to overcome the deleterious effects of disturbed intrathoracic equilibrium.

A Case of Extensive Subcutaneous Emphysema Following Intratracheal Anesthesia, with Recovery.—LUKE (*Surg. Gynec. and Obst.*, 1913, xvi, 204) reports the case of a woman, aged thirty-six years, operated on for a decompression under intratracheal insufflation, for a cerebral tumor. The patient was placed in the prone position, with the head strongly flexed over the end of the table, which proved to be a bad position for breathing and for managing the giving of the anesthetic. The color and pulse were entirely satisfactory for the first ten minutes. During the next twenty-five minutes there was a moderate cyanosis occasionally which was relieved by extending the head a little. About ten minutes later the blood in the wound was noted to be very dark and the face was cyanosed and generally swollen, especially on the left side. The intratracheal tube was withdrawn without a moment's delay and the patient quickly turned to the dorsal position and artificial respiration begun. There was also a marked swelling as far as the umbilicus, anteriorly, and to the base of the spine posteriorly, all of which gave the characteristic crackle, on palpation, of subcutaneous emphysema. The decompression operation was performed after some improvement in the condition of the patient, under a very small amount of drop ether. The patient recovered to die from a later operation for the removal of the tumor. The following possibilities are considered in explanation of this accident: (1) That of the direct trauma due to the catheter either during introduction or afterward; again from pressure of the long narrow sand bags under the neck. (2) Trauma brought about by overdistention: Here is considered the possibility of inserting the catheter too far, and thereby plugging tightly a bronchus, leading to overdistention and rupture of the lung. In this case perhaps obstruction was possible from the extreme flexion and pressure of the sand bags beneath the neck. Again the catheter may have been too large (No. 24 was used), but from experience this seems unlikely. This is the second accident of this kind in New York City during the use of this method. The other case resulted in death and was thought to be due to the catheter slipping into a bronchus and plugging it, with consequent excessive distention and rupture of the lung. It is admitted that errors in technique may have been entirely responsible for this accident; but it teaches the valuable lesson that the method is not entirely without danger, and, further, that a safety device (which was not applied to the apparatus in either of the above cases) which will efficiently guard against high intrapulmonary pressure, is absolutely essential.

Treatment of Wounds of the Venous Sinuses of the Cranium.—AUVRAY (*Arch. gén. d. chir.*, 1913, lvi, 257) collected from the literature 163 cases of wounds of the superior longitudinal and lateral sinuses and reports 3 new cases. He emphasizes the gravity of the prognosis and studied the various therapeutic procedures and their comparative value. He discusses the employment of sutures, of forceps which are left in position, of the lateral and circular ligature, and of the tampon. The latter is the oldest of all and in Auvray's stastistics was employed in 75 out of 112 cases operated on. In 9 other cases the method of hemostasis was not indicated. In favor of the tampon are its simplicity, the rapidity with which it can be applied, and its great efficacy. Even when the suture or forceps pressure is employed, the tampon serves as a complimental method, and renders more perfect the hemostasis of the venous wound. The necessity of leaving the wound open exposes the patient to the danger of the introduction of infectious material and the development of phlebitis which was common in the earlier cases. But the present-day use of sterile and antiseptic gauze, as iodoform gauze, makes these complications little to be feared. Another objection raised against the tampon is the danger of pressure by it upon the brain. Auvray did not experience this complication in any of his cases, and believes that it will be of minimal importance in any case, since it can be obviated at any time by the removal of the tampon. He maintains that the superiority of the tampon over all other methods is incontestible.